**Chemistry Exam #1 Retake**

**Directions: Please answer the following questions in complete sentences. You may write on a separate piece of paper. Depending on how many questions you missed on the exam will determine how many questions will you need to answer. If you missed 15 or more questions you must answer all the questions. If you missed 10 questions answer only four questions. If you missed 5 questions answer three questions. Each question (2pts) that is answered correctly will help you gain back points on your exam. Test corrections are due next Tuesday, but can be turned in earlier.**

**INCOMPLETE = NO POINTS**

**QUESTIONS MUST BE ANSWERED TO GET THE POINTS**

1. Copy and complete the following table concerning the three isotopes of silicon, Si.

|  |  |  |  |
| --- | --- | --- | --- |
| **Isotope** | Number of Protons | Number of Electrons | Number of Neutrons |
| Si-28 |  |  |  |
| Si-29 |  |  |  |
| Si-30 |  |  |  |

1. Define each of the following:
   1. Atomic number
   2. Mass number
   3. Isotope
2. The study of atomic structure and the nucleus produced a new field of medicine called nuclear medicine. Describe the use of radioactive tracers to detect and treat diseases. (*You may have to do a little bit of research to answer this question).*
3. Label each observation as qualitative or quantitative.
   1. The temperature of this room is 25 degrees Celsius.
   2. It is comfortably warm in this room.
   3. Most people have removed their coats.
   4. The building is 25 stories high.
   5. It is a very tall building.
   6. The building is taller than any nearby trees.
4. Match each observation with the correct conclusion:
   1. Cathode rays are attracted to a positively charged metal plat.
      1. Cathode rays are positively charged.
      2. Cathode rays are negatively charged.
      3. Cathode rays have no charge.
   2. Electrons have a negative charge.
      1. Atoms must be negatively charged.
      2. Atoms must be positively charged.
      3. Atoms must also contain positive subatomic material.
   3. Alpha particles fired at a thin gold foil are occasionally scattered back the direction that they came from.
      1. The positive material in an atom is spread throughout like the batter in pudding.
      2. Atoms contain neutrons.
      3. The positive charge in an atom is concentrated in a small area at the center of the atom.
5. Use the periodic table to find the symbol for the element with:
   1. 44 electrons
   2. 30 protons
   3. 36 atomic mass
   4. 53 atomic number